



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/594,544

10/17/2007

Naoya Kobayashi

27707U

1924

20529

7590

06/25/2010

THE NATH LAW GROUP

112 South West Street

Alexandria, VA 22314

EXAMINER

WILSON, MICHAEL C

ART UNIT

PAPER NUMBER

1632

MAIL DATE

DELIVERY MODE

06/25/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/594,544	Applicant(s) KOBAYASHI ET AL.	
	Examiner Michael C. Wilson	Art Unit 1632	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 4-9-10.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 4-10 is/are pending in the application.
- 4a) Of the above claim(s) 6,8 and 9 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4,5,7 and 10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>5-25-10</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim 3 has been canceled. Claims 1, 2 and 4-10 are pending. Support for the amendment to claim 1 is implicit in original claim 3.

Applicant's arguments filed 4-9-10 have been fully considered but they are not persuasive.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Specification

The amendment to the specification filed 4-9-10 has not been entered because the page and line numbers are incorrect. The paragraph in question bridges pg 11-12 of the original disclosure. The amendment attempts to delete the concept of using a CMV promoter as a "non-viral promoter". Such an amendment would be considered new matter because it would change the scope of the disclosure. Do not attempt to delete the concept of using the CMV promoter from the specification.

Election/Restrictions

Applicant's election of Group I, claims 1-5 and 7 (and 10), in the reply filed on 10-29-09 is acknowledged.

Applicants point out the restriction was traversed because the burden required to search the entire application. Applicant's election with traverse of Group in the reply filed on 10-29-09 is acknowledged. This is not found persuasive because the burden required to search and examine the groups together would be undue. The requirement is still deemed proper and is therefore made FINAL.

This application contains claims 6, 8 and 9 drawn to an invention nonelected with traverse in the reply filed on 10-29-10. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

Claim 1 is drawn to a reversibly immortalized mammalian liver cell line containing an immortalizing gene between a pair of site-specific recombination sequences and a suicide gene in the outside of the pair of site-specific recombination sequences, wherein the suicide gene can exhibit its function after excision of the pair of site-specific recombination sequences.

“Reversibly immortalized” is defined as a cell brought into a condition capable of proliferating immortally by transducing an immortalizing gene into the cell; after proliferation of the cells up to the desired cell number, the cell division is arrested by excising the immortalizing gene so that the condition of the cell is reverted to the former condition with high safety.

Immortalizing genes encompass SV40T, human telomerase reverse transcriptase (hTERT) and the like (pg 10, lines 6-17). Immortalizing genes include papillomaviruses E6 and E7, adenovirus E1A, PBV, human T-cell leukemia virus, herpes virus saimiri, oncogenes, mutant p53 gene (Katakura, Methods Cell Biol., 1998, Vol. 57, pg 59-91). Site specific recombination sequences such as LoxP and FRT are described on pg 9, line 22 and were known in the art at the time of filing. Suicide gene were known in the art and described in the paragraph bridging pg 10-11.

Claim 1 now requires the cell line does not contain a promoter derived from virus. However, applicants' examples are limited to a cell with the SV40T gene, which is a viral gene comprising a viral promoter (pg 23, lines 16-27, specifically line 27).

Claim Rejections - 35 USC § 112

Claims 5 and 10 remain rejected as amended under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The rejection regarding claim 2 has been withdrawn because "wherein said mammalian is human" has been deleted.

The rejection regarding claim 3 has been withdrawn because it has been canceled.

The rejection regarding claim 4 has been withdrawn because the parentheses have been deleted.

Claim 5 remains indefinite because it does not further limit claim 1 and because the claim does not clearly set forth how it is structurally or functionally different than the cell of claim 1. Accordingly, claim 10 (dependent upon claim 5) is likewise indefinite. Applicants argue the claim is different than claim 1 because the immortalizing gene has been excised. Applicants' argument is not persuasive. The claim requires a cell "obtainable by excising the immortalizing gene" and does not clearly set forth that the immortalizing gene has been excised. More importantly, the claim cannot further limit

Art Unit: 1632

the cell line of claim 1 because it is broader in scope than the cell line of claim 1, i.e. it has fewer structural elements.

Claim Rejections - 35 USC § 102

Claims 1, 2, 4, 5, 7 and 10 remain rejected under 35 U.S.C. 102(b) as being anticipated by Westerman (PNAS, Aug. 1996, Vol. 93, pg 8971-8976), Salmon (Molecular Therapy, Oct. 2000, Vol. 2, No. 4, pg 404-414), Kobayashi (Science, Feb. 18, 2000, Vol. 287, pg 1258-1262), Kobayashi (Human Cell., March 2000, Vol. 13, No. 1, pg 7-13), Kobayashi (Saisei Iryo, Nov. 2002, Vol. 1, No. 2, pg 23-28) and Kobayashi (Cell Technology, June 2000, Vol. 19, No. 6, pg 864-868).

The references all taught a reversibly immortalized human liver cell line containing an immortalizing gene between a pair of site-specific recombination sequences and a suicide gene in the outside of the pair of site-specific recombination sequences, wherein the suicide gene can exhibit its function after excision of the pair of site-specific recombination sequences. See for example Fig. 1 of Westerman which shows a vector encoding SV40T and SHVTK genes with FRT sites used to transfect various cells, such as mammalian liver cells. Claim 1 has been included because the promoters described in the references are not from virus. Claim 4 has been included because the structure of the human liver cells described in the references (especially by Kobayashi, an inventor in the instant application) is the same structure as the cells of accession number FERM BP-08657.

Applicants argue the references are limited to using CMV. Applicants' argument is not persuasive. CMV is contemplated by applicants as a "non-viral" promoter (pg 12, lines 4-5). More importantly, the references do not teach the cells had CMV or any other viral promoters. Clarification is required.

It is noted that applicants taught a cell with the SV40T gene, which is a viral gene comprising a viral promoter, on pg 23, lines 16-27 (see line 27).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

No claim is allowed.

Inquiry concerning this communication or earlier communications from the examiner should be directed to Michael C. Wilson who can normally be reached at the

Art Unit: 1632

office on Monday, Tuesday, Thursday and Friday from 9:30 am to 6:00 pm at 571-272-0738.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to (571) 272-0547.

Patent applicants with problems or questions regarding electronic images that can be viewed in the Patent Application Information Retrieval system (PAIR) can now contact the USPTO's Patent Electronic Business Center (Patent EBC) for assistance. Representatives are available to answer your questions daily from 6 am to midnight (EST). The toll free number is (866) 217-9197. When calling please have your application serial or patent number, the type of document you are having an image problem with, the number of pages and the specific nature of the problem. The Patent Electronic Business Center will notify applicants of the resolution of the problem within 5-7 business days. Applicants can also check PAIR to confirm that the problem has been corrected. The USPTO's Patent Electronic Business Center is a complete service center supporting all patent business on the Internet. The USPTO's PAIR system provides Internet-based access to patent application status and history information. It also enables applicants to view the scanned images of their own application file folder(s) as well as general patent information available to the public.

For all other customer support, please call the USPTO Call Center (UCC) at 800-786-9199.

If attempts to reach the examiner are unsuccessful, the examiner's supervisor, Peter Paras, can be reached on 571-272-4517.

The official fax number for this Group is (571) 273-8300.

Michael C. Wilson

/Michael C. Wilson/
Primary Patent Examiner